

InPro® 3200 and InPro® 3200SG

Gel-electrolyte pH-electrodes with integrated temperature sensor

Technical Data



InPro 3200

InPro3200SG

Short description

Combination electrodes with gel electrolyte and integrated temperature sensor for in-line pH measurements in a wide variety of applications, including harsh chemical processes, water and wastewater treatment, and sterile biotechnical fermentations. The InPro 3200 pH-electrode, a further development of METTLER TOLEDO's well-proven DPA series of electrodes, has a temperature sensor type Pt100 or Pt1000 integrated in the electrode immediately behind the pH-sensitive glass. Simultaneous measurement of pH value and temperature facilitates operation and increases calibration and measurement accuracy, especially important in chemical processes with fluctuating temperatures.

Optionally, the electrode InPro 3200SG is also available with an additional platinum ring for grounding of the sample media or to allow advanced diagnostic procedures.

- Designed for use in tanks, open basins, transfer lines or in closed, low-pressure reactors and fermenters
- Pre-pressurized gel-electrolyte sensors for low-maintenance operation (2.5 bar/36 psi)
- Integrated temperature sensor for automatic temperature compensation during calibration and measurement
- Patented silver-ion trap to prevent fouling of diaphragm in sulfide-bearing media
- Sensor and connector designed to allow autoclaving and in-situ sterilization where required
- The additional platinum ring around the rear section of the pH-sensitive glass can, in conjunction with the relative wire in the VP cable, be connected at the signal amplifier as grounding for the sample media, or to enable electrode diagnostics or simultaneous pH/redox measurement
- VarioPin (VP) connector (IP68) of hardwearing PEEK construction
- EEx-certification: II 1/2G EEx ia IIC/T6/T5/T4, SNCH 00 ATEX 3130X
- According to PED (Pressure Equipment Directive 97/23/EC, Art. 3, Sec. 3)
- Suitable also for use with media low in ions.

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METTLER TOLEDO

Specifications

Measuring range	pH 0...14
Temperature	0...100 °C for operation 0...140 °C for sterilization
Pressure resistance	from vacuum to a process pressure up to max. 2.5 bar (36 psi)
Reference system	Argenthal (Ag/AgCl)
Reference electrolyte	pressurized gel electrolyte
Diaphragm	1 ceramic diaphragm
Glass membrane	HA, high alkali glass quality
Glass shaft	Ø 12 mm
Plug head	VarioPin (VP), Pg 13.5 thread
VP protection rating	IP 68
Solution ground	platinum (only by InPro 3200SG)

Ordering information

pH-electrodes			
Temperature sensor Pt 100	Electrode length [a]	Order no.	
InPro 3200/120/Pt 100	120 mm (4.70")	52 001 418	
InPro 3200/200/Pt 100	200 mm (7.87")	52 001 420	
InPro 3200/225/Pt 100	225 mm (8.86")	52 001 422	
InPro 3200/325/Pt 100	325 mm (12.80")	52 001 424	
InPro 3200/425/Pt 100	425 mm (16.73")	52 001 503	
with grounding loop:			
InPro 3200SG/120/Pt 100	120 mm (4.70")	52 001 813	
InPro 3200SG/225/Pt 100	225 mm (8.86")	52 001 815	
InPro 3200SG/325/Pt 100	325 mm (12.80")	52 001 817	
Temperature sensor Pt 1000			
InPro 3200/120/Pt 1000	120 mm (4.70")	52 001 419	
InPro 3200/200/Pt 1000	200 mm (7.87")	52 001 421	
InPro 3200/225/Pt 1000	225 mm (8.86")	52 001 423	
InPro 3200/325/Pt 1000	325 mm (12.80")	52 001 425	
InPro 3200/425/Pt 1000	425 mm (16.73")	52 001 504	
with grounding loop:			
InPro 3200SG/120/Pt 1000	120 mm (4.70")	52 001 814	
InPro 3200SG/225/Pt 1000	225 mm (8.86")	52 001 816	
InPro 3200SG/325/Pt 1000	325 mm (12.80")	52 001 818	
Cables (open ends)			
Standard temperature	Order no.	Order no.	Order no.
(-20...80 °C/-4...176 °F)	VP6-ST/3 m (9.8 ft)	VP6-ST/5 m (16.4 ft)	VP6-ST/10 m (32.8 ft)
	52 300 108	52 300 109	52 300 110
High temperature			
(-30...140 °C/-22...284 °F)	VP6-HT/3 m (9.8 ft)	VP6-HT/5 m (16.4 ft)	VP6-HT/10 m (32.8 ft)
	52 300 112	52 300 113	52 300 114
Buffer solutions			
	1 x 250 ml	6 x 250 ml	1 x 1000 ml
Buffer pH = 4.01 (red)	51 340 057	51 340 058	51 340 228
Buffer pH = 7.00 (green)	51 340 059	51 340 060	51 340 229
Buffer pH = 9.21 (blue)	51 300 193	51 300 194	51 340 230
Conditioning solution			
Friscolyt™	51 340 053		

Recommended housings

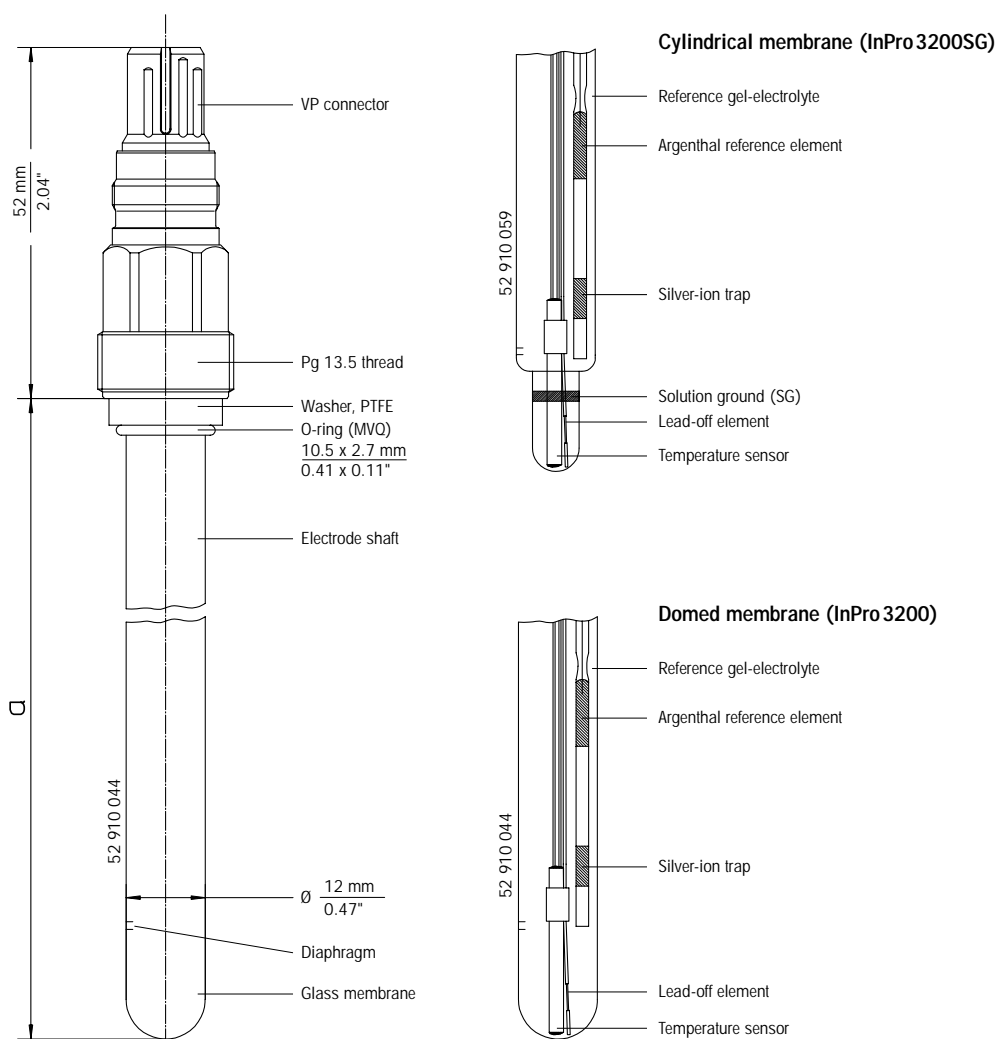
Application areas Electrode length [a]	CPI	Water	Biotechnology	
			Side mounting	Top mounting
120 mm (4.70")	InFit 761-25-CP	InDip 550	InFit 761-25BT(B)/70	
	InFit 762	InFlow 751	InFit 761-25CIP/70	
225 mm (8.86")	InTrac 777-SL/100	InDip 502	InFit 761-25BT(B)/175	InFit 761-19BT/175
	InTrac 777-SPR/100			
325 mm (12.80")			InTrac 797/75	InFit 761-19BT/275
425 mm (16.73")	InTrac 777-SL/200			InFit 761-19BT/375
	InTrac 777-SPR/200			

Transmitters

A wide range of transmitters can be offered to complete the METTLER TOLEDO/INGOLD measurement system, including a 4 wire version for universal AC/DC power supply, or alternatively in 2-wire versions, with or without HART® or Profibus® communication, of standard or explosion-proof (EEX) design.

Drawings

InPro 3200



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